Access DB# 71012

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BERCH Examiner # : 59193 Date: 7/16/02
Art Unit: 1627 Phone Number 30 84718 Serial Number: 10/030692
Mail Box and Bldg/Room Location: 4D.S 4E12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention:

Inventors (please provide full names): RT

Earliest Priority Filing Date:

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

CAS React

or tatomas thereof Open

Catalyst must contain metal

Point of Contact:
Thomas G. Larson, Ph.D.
703-308-7309
CM1, Rm. 6 B 01

Point of Contact:
Susan Hanley
Technical Info. Specialist
CM1 6B05 Tel: 305-4053

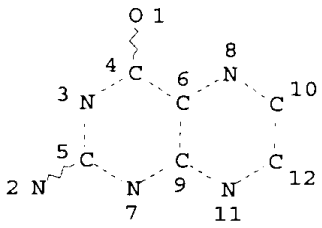
****

STAFF USE ONLY	**Type of Search**	**Vendors and cost where applicable**
Searcher: Larson & Hanley	NA Sequence (#)	STN 630
Searcher Phone # 8-7309	AA Sequence (#)	Dialog
Searcher Location 6B01	Structure (#) 2	Questel/Orbit
Date Searcher Picked Up 7/16/	Bibliographic	Dr Link
Date Completed 7/19/02	Litigation	Lexis/Nexis
Searcher Prep & Review Time 45	Fulltext	Sequence Systems
Clerical Prep Time	Patent Family	WWW/Internet
Online Time 225	Other	Other (specify)

PTO-1590 (8-01)

=> d que
L1 STR

RRT



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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
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L10 2100979 SEA FILE=HCAPLUS ABB=ON PLU=ON ALKALI METALS+NT/CT OR ALKALINE EARTH METALS+NT/CT OR HEAVY METALS+NT/CT OR TRANSITION METALS+NT/CT
L11 119412 SEA FILE=HCAPLUS ABB=ON PLU=ON L10 (L) CAT/RL
L12 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 AND L11

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L12 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:514973 HCAPLUS
Correction of: 1987:213647
DOCUMENT NUMBER: **111:114973**
Correction of: 106:213647
TITLE: (6R)-Tetrahydro-L-biopterin
INVENTOR(S): Sakai, Hideaki; Kanai, Tadashi
PATENT ASSIGNEE(S): Shiratori Pharmaceutical Co., Ltd., Japan; Suntory, Ltd.
SOURCE: Eur. Pat. Appl., 29 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 191335	A2	19860820	EP 1986-100944	19860124
EP 191335	A3	19880210		
EP 191335	B1	19910814		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 61172876	A2	19860804	JP 1985-12477	19850128

JP 04013357	B4	19920309		
JP 61172877	A2	19860804	JP 1985-12478	19850128
JP 05086393	B4	19931210		
JP 09157270	A2	19970617	JP 1996-164213	19850128
US 4713454	A	19871215	US 1986-824288	19860123
CA 1262347	A1	19891017	CA 1986-500218	19860123
AU 8652720	A1	19860731	AU 1986-52720	19860124
AU 581052	B2	19890209		
AT 66229	E	19910815	AT 1986-100944	19860124

PRIORITY APPLN. INFO.: JP 1985-12477 19850128
JP 1985-12478 19850128
EP 1986-100944 19860124

OTHER SOURCE(S): CASREACT 111:114973

AB The title compd. I useful for treatment of certain serious neuroses and malignant hyperphenylalaninemia (no data) was prepd. selectively by catalytic redn. of L-erythro-biopterin (II) or its acyl deriv. with Pt in the presence of an amine at pH 10-13. Thus, to H2O were added II and Pt black followed by 10% Et4N+OH- to pH = 12, and the mixt. was autoclaved at -=5.degree. and H pressure of 100 kg/cm2 followed by addn. of HCl to give I-2HCl (85% yield).

IT **7440-06-4**, Platinum, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, for redn. of biopterin)

RN 7440-06-4 HCAPLUS

CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt – catalyst was depicted as a structure. Need to go back to CasReact to get reaction.

L12 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1986:460944 HCAPLUS

DOCUMENT NUMBER: **105:60944**

TITLE: 5,6,7,8-Tetrahydrofolic acid

INVENTOR(S): Hirai, Yutaka; Torisu, Masaaki; Nagayoshi, Eri

PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan

SOURCE: Eur. Pat. Appl., 28 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 179654	A2	19860430	EP 1985-307636	19851023
EP 179654	A3	19870805		
EP 179654	B1	19900725		
R: CH, DE, FR, GB, IT, LI, NL				
JP 61100583	A2	19860519	JP 1984-221189	19841023
JP 04014677	B4	19920313		
JP 61286383	A2	19861216	JP 1985-125130	19850611
JP 06031237	B4	19940427		
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AU 556498	B2	19861106		
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DK 8504869	A	19860424	DK 1985-4869	19851023

DK 162997 B 19920106
DK 162997 C 19920601
PRIORITY APPLN. INFO.: JP 1984-221189 19841023
JP 1985-125130 19850611
OTHER SOURCE(S): CASREACT 105:60944

AB The hydrogenation of folic and dihydrofolic acid was catalyzed by Pt, Rh, and Pt oxide at pH 5-9. Folic acid was hydrogenated in aq. NH3 contg. Pt/C at pH 6.6 to give 77.5 % title compd.

IT **7440-16-6**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, for hydrogenation of folic acid)
RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

IT **7440-06-4**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, for hydrogenation of folic and dihydrofolic acid)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

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L5                  STR

RRT
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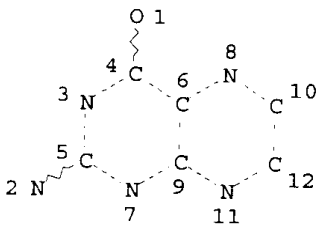


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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  12

STEREO ATTRIBUTES: NONE
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L32            1 SEA FILE=CASREACT ABB=ON  PLU=ON  105:60944/AN   } duplic.
L40            2 SEA FILE=CASREACT ABB=ON  PLU=ON  L6 AND (L31 OR L32)

=>  d ibib abs fcrdref 1-2


L40  ANSWER 1 OF 2  CASREACT  COPYRIGHT 2002 ACS
ACCESSION NUMBER:        111:114973  CASREACT
                           Correction of: 106:213647
TITLE:                   (6R)-Tetrahydro-L-biopterin
INVENTOR(S):             Sakai, Hideaki; Kanai, Tadashi
PATENT ASSIGNEE(S):      Shiratori Pharmaceutical Co., Ltd., Japan; Suntory,
                         Ltd.
SOURCE:                  Eur. Pat. Appl., 29 pp.
                         CODEN: EPXXDW
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     EP 191335          A2   19860820      EP 1986-100944   19860124
     EP 191335          A3   19880210
     EP 191335          B1   19910814
        R:  AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE
     JP 61172876        A2   19860804      JP 1985-12477    19850128
     JP 04013357        B4   19920309
     JP 61172877        A2   19860804      JP 1985-12478    19850128
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JP 05086393	B4	19931210		
JP 09157270	A2	19970617	JP 1996-164213	19850128
US 4713454	A	19871215	US 1986-824288	19860123
CA 1262347	A1	19891017	CA 1986-500218	19860123
AU 8652720	A1	19860731	AU 1986-52720	19860124
AU 581052	B2	19890209		
AT 66229	E	19910815	AT 1986-100944	19860124
PRIORITY APPLN. INFO.:			JP 1985-12477	19850128
			JP 1985-12478	19850128
			EP 1986-100944	19860124

AB The title compd. I useful for treatment of certain serious neuroses and malignant hyperphenylalaninemia (no data) was prepd. selectively by catalytic redn. of L-erythro-biopterin (II) or its acyl deriv. with Pt in the presence of an amine at pH 10-13. Thus, to H2O were added II and Pt black followed by 10% Et4N+OH- to pH = 12, and the mixt. was autoclaved at -=5.degree. and H pressure of 100 kg/cm2 followed by addn. of HCl to give I-2HCl (85% yield).

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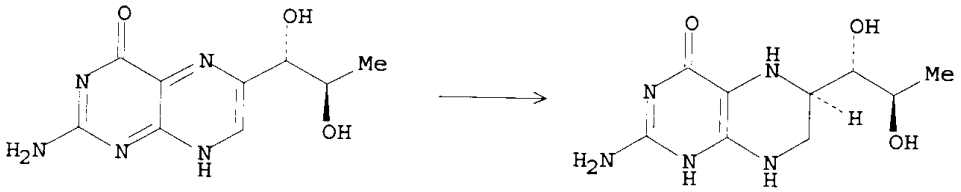

REF: Eur. Pat. Appl., 191335, 20 Aug 1986

L40 ANSWER 2 OF 2 CASREACT COPYRIGHT 2002 ACS

ACCESSION NUMBER: **105:60944** CASREACT

TITLE: 5,6,7,8-Tetrahydrofolic acid

INVENTOR(S): Hirai, Yutaka; Torisu, Masaaki; Nagayoshi, Eri

PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan

SOURCE: Eur. Pat. Appl., 28 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 179654	A2	19860430	EP 1985-307636	19851023
EP 179654	A3	19870805		
EP 179654	B1	19900725		
R: CH, DE, FR, GB, IT, LI, NL				
JP 61100583	A2	19860519	JP 1984-221189	19841023
JP 04014677	B4	19920313		
JP 61286383	A2	19861216	JP 1985-125130	19850611
JP 06031237	B4	19940427		
US 4665176	A	19870512	US 1985-786126	19851010
AU 8548546	A1	19860501	AU 1985-48546	19851014
AU 556498	B2	19861106		
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DK 162997	B	19920106		

DK 162997 C 19920601
PRIORITY APPLN. INFO.: JP 1984-221189 19841023
JP 1985-125130 19850611

AB The hydrogenation of folic and dihydrofolic acid was catalyzed by Pt, Rh, and Pt oxide at pH 5-9. Folic acid was hydrogenated in aq. NH3 contg. Pt/C at pH 6.6 to give 77.5 % title compd.

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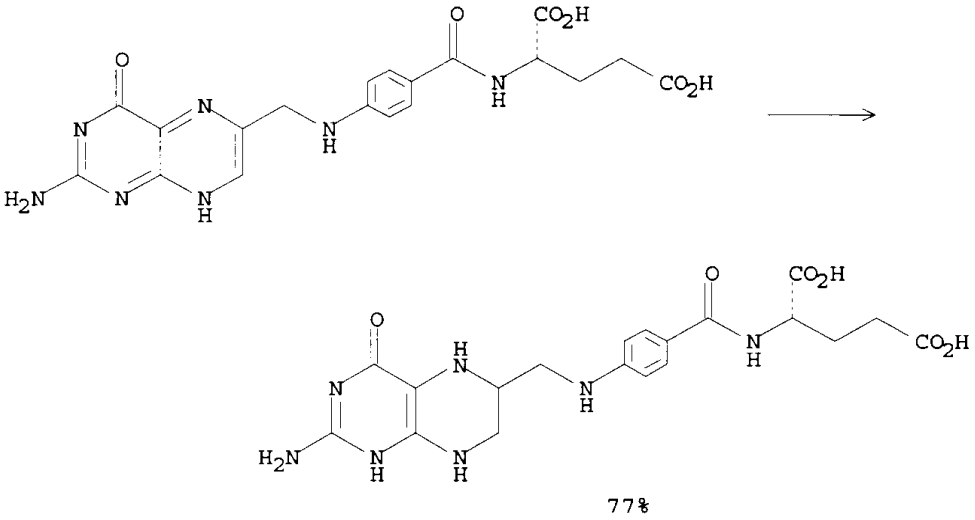

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REF: Eur. Pat. Appl., 179654, 30 Apr 1986

Initial Search of CAS React

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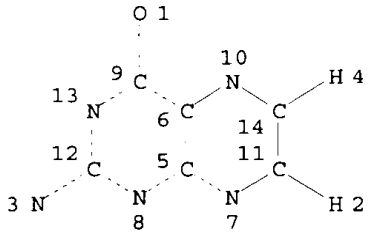


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STEREO ATTRIBUTES: NONE
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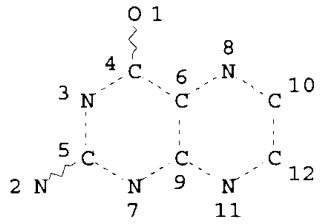


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NUMBER OF NODES IS  12

STEREO ATTRIBUTES: NONE
L6            61 SEA FILE=CASREACT SSS FUL L5 (   378 REACTIONS)
L8            26 SEA FILE=CASREACT SUB=L6 SSS FUL L4 (   114 REACTIONS)
L9            16 SEA FILE=CASREACT ABB=ON  PLU=ON  L8 (L) ANY/CAT

=> d ibib abs fcrdref 1-16

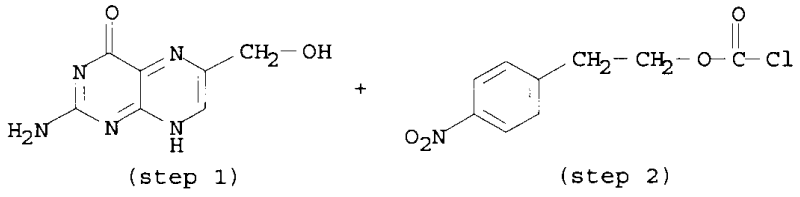
L13  ANSWER 1 OF 8  CASREACT  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         134:159297  CASREACT
TITLE:                    Pteridine-based photoaffinity probes for nitric oxide
                          synthase and aromatic amino acid hydroxylases
AUTHOR(S):                Groehn, Viola; Frohlich, Lothar; Schmidt, Harald H. H.
                          W.; Pfleiderer, Wolfgang
```

find reactions using any catalyst

CORPORATE SOURCE: Fakultat fur Chemie, Universitat Konstanz, Konstanz, D-78434, Germany
SOURCE: Helvetica Chimica Acta (2000), 83(10), 2738-2750
CODEN: HCACAV; ISSN: 0018-019X
PUBLISHER: Verlag Helvetica Chimica Acta
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Various 6-substituted pteridines and 5,6,7,8-tetrahydropterins carrying photolabile functions at the side chain as well as at the 5-position were synthesized from pterin and from 6-phenylpterin and 6-(hydroxymethyl)pterin. Attachment of the photoaffinity labels via ester bonds required a special protecting-group strategy based upon acid-labile and .beta.-eliminating blocking groups. 6-(4-Azidophenyl)pterin was obtained from 6-phenylpterin via intermediates due to the low soly. of simple pterins in general. The pteridine derivs. were screened as inhibitors of neuronal (type I) NO synthase from porcine cerebellum, and four of these showed interesting inhibitory activity with similar potency and effectiveness.

RX(8) OF 90



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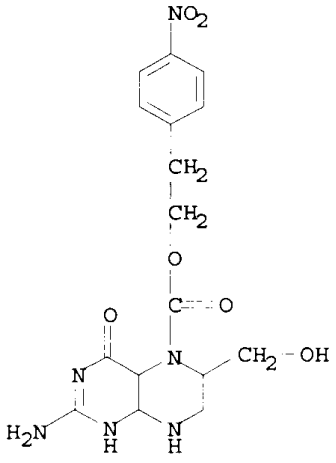


REF: Helvetica Chimica Acta, 83(10), 2738-2750; 2000

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

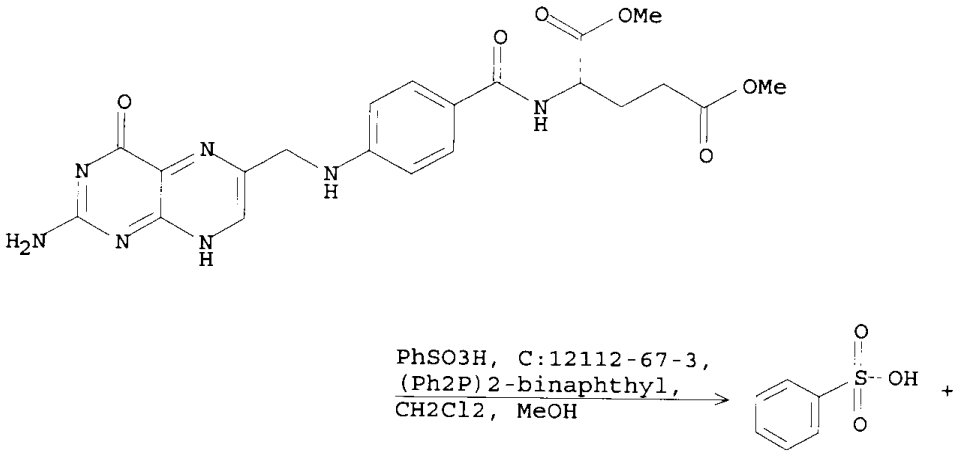
L13 ANSWER 2 OF 8 CASREACT COPYRIGHT 2002 ACS
ACCESSION NUMBER: 134:116234 CASREACT
TITLE: Resolution of isomers of tetrahydrofolic acid ester salts and tetrahydrofolic acid using fractional crystn. techniques
INVENTOR(S): Muller, Hans Rudolf; Moser, Rudolf; Groehn, Viola
PATENT ASSIGNEE(S): Eprova A.-G., Switz.
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001004121	A1	20010118	WO 2000-EP6647	20000712
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1200436	A1	20020502	EP 2000-949322	20000712
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
PRIORITY APPLN. INFO.:			CH 1999-1300	19990714
			WO 2000-EP6647	20000712

OTHER SOURCE(S): MARPAT 134:116234

AB The invention concerns a method for making and enriching ester salts of (6S,.alpha.S)- or (6S,.alpha.R)-tetrahydrofolic acid and (6S,.alpha.S)- or (6S,.alpha.R)-tetrahydrofolic acid. The invention is characterized in that it consists in: producing or dissolving equimolar or enriched mixts. of diastereomers of tetrahydrofolic acid ester additive salts with arom. sulfonic acids in org. solvents; then crystg. said mixts. at least once; hydrolyzing the crystd. product in (6S,.alpha.S)- or (6S,.alpha.R)-tetrahydrofolic acid as the case may be; crystg. the latter as free acid and isolating it in the form of salt. Thus, .alpha.S-folic acid di-Me ester benzenesulfonate was stereospecifically hydrogenated to either the the 6R- or 6S,.alpha.-tetrahydro diester salt. By fractional crystn., a starting soln. of ratio 70:30 (6S:6R) of the diester salt was sepd. to give 3.46 gm of the 6S,.alpha. form with purity of 99.9%.

RX(2) OF 15



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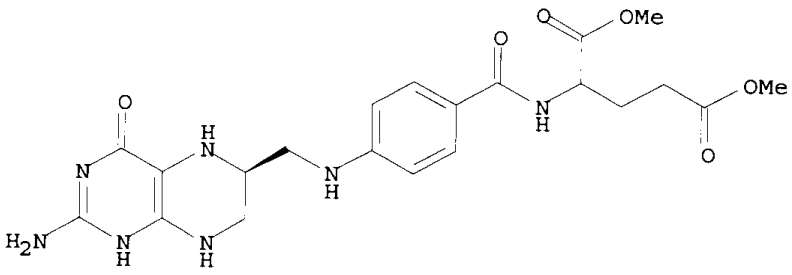


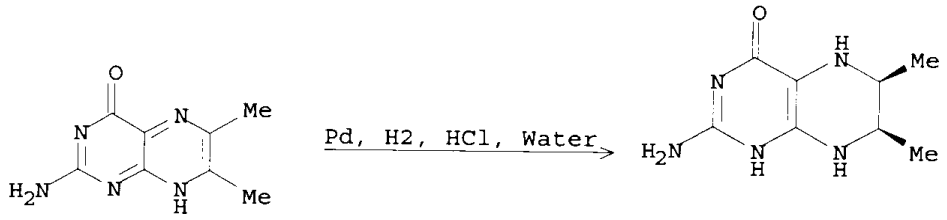
REF: PCT Int. Appl., 2001004121, 18 Jan 2001
NOTE: catalyst generated in-situ, stereoselective

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 8 CASREACT COPYRIGHT 2002 ACS
ACCESSION NUMBER: 123:170102 CASREACT
TITLE: Biomimetic oxidation of L-phenylalanine with H2O2 and 2-amino-6,7-dimethyl-5,6,7,8-tetrahydro-4(3H)pteridinone in different reaction conditions
AUTHOR(S): Gupta, M.; Tomar, J.; Nizar, P. N. H.; Chauhan, S. M. S.
CORPORATE SOURCE: Dep. Chem., Univ. Delhi, Delhi, 110 007, India
SOURCE: Indian J. Chem., Sect. B: Org. Chem. Incl. Med. Chem. (1995), 34B(5), 449-51
CODEN: IJSBDB; ISSN: 0376-4699
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Oxidn. of L-phenylalanine (3) with H2O2 in the presence of tetrahydropteridine gives tyrosine (4) and phenylpyruvic acid (5) in varying yields depending upon the pH of the reaction medium. The formation of hydroxy radicals during the oxidn. of 3 to 4 and 5 has been

inferred by use of radical quenchers in aq. medium.

RX(1) OF 1



REF: Indian J. Chem., Sect. B: Org. Chem. Incl. Med. Chem., 34B(5), 449-51; 1995

L13 ANSWER 4 OF 8 CASREACT COPYRIGHT 2002 ACS

ACCESSION NUMBER: 114:81742 CASREACT
TITLE: Pteridines. XCV. Synthesis of new N-5-acyl-5,6,7,8-tetrahydropterins
AUTHOR(S): Lockart, Ronan John; Pfleiderer, Wolfgang
CORPORATE SOURCE: Fak. Chem., Univ. Konstanz, Konstanz, D-7750, Fed. Rep. Ger.
SOURCE: Pteridines (1989), 1(4), 199-210
CODEN: PTRDEO
DOCUMENT TYPE: Journal
LANGUAGE: English
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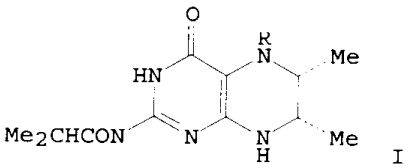
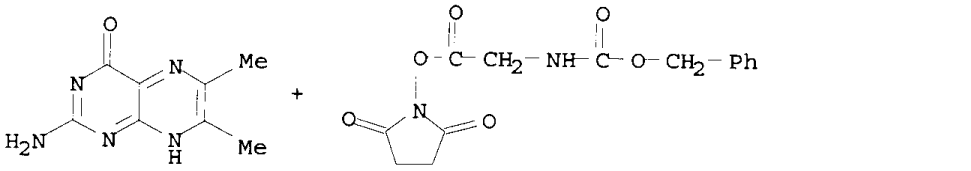


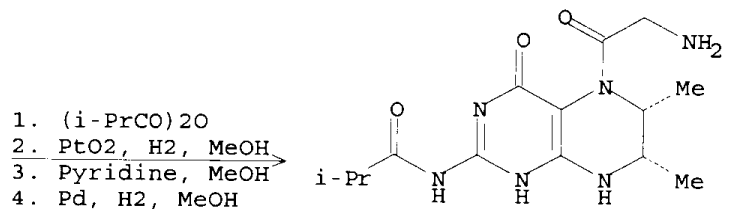
I

AB A series of tetrahydropterin derivs. was prepd. starting from N2-isobutyryl-6,7-dimethyl-5,6,7,8-tetrahydropterin (I; R = H). Amidation with succinic anhydride gave I (R = COCH2CH2CO2H). The latter were coupled with amino acids to give I (R = COCH2CH2CONHCHR1CO2R2; R1 = Me, CH2Ph, etc.; R2 = CH2Ph, CH2CH2C6H4NO2-4) which were selectively deprotected.

RX(30) OF 35 - 4 STEPS



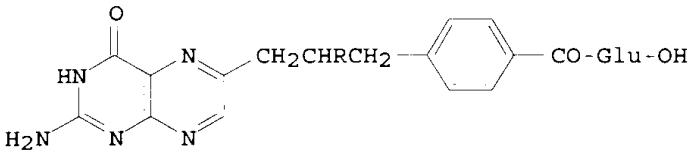
(step 3)



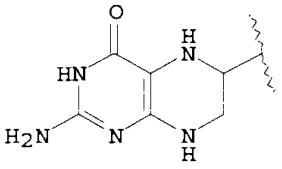
HCl
91%

REF: Pteridines, 1(4), 199-210; 1989

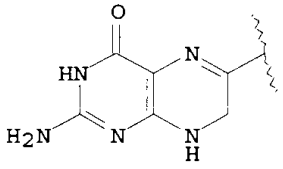
L13 ANSWER 5 OF 8 CASREACT COPYRIGHT 2002 ACS
ACCESSION NUMBER: 110:232040 CASREACT
TITLE: Folate analogs. 31. Synthesis of the reduced derivatives of 11-deazahomofolic acid, 10-methyl-11-deazahomofolic acid, and their evaluation as inhibitors of glycinamide ribonucleotide formyltransferase
AUTHOR(S): Nair, M. G.; Murthy, B. R.; Patil, Sharadbala D.; Kisliuk, R. L.; Thorndike, J.; Gaumont, Y.; Ferone, R.; Duch, D. S.; Edelstein, M. P.
CORPORATE SOURCE: Dep. Biochem., Univ. South Alabama, Mobile, AL, 36688, USA
SOURCE: J. Med. Chem. (1989), 32(6), 1277-83
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I



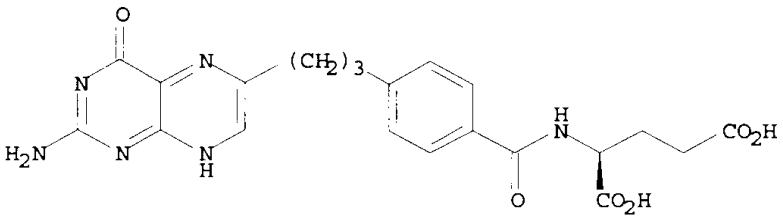
II



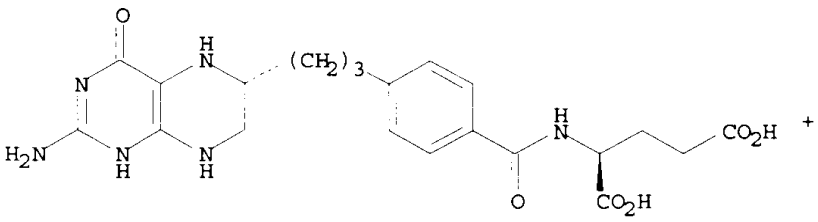
III

AB 11-Deazahomofolates I (R = H, Me) were prepd. and converted into (6R,S)-5,6,7,8-tetrahydro derivs. II and 7,8-dihydro derivs. III by catalytic hydrogenation. I (R = H, Me) had little inhibitory effect (IC50 > 2 .times. 10-5M) on Lactobacillus casei glycinamide ribonucleotide (GAR) formyltransferase, but II (R = H) is a potent inhibitor of this enzyme (IC50 = 5 .times. 10-8M). The 6R component is responsible for the potent inhibition. II (R = H) is a much weaker inhibitor of murine (L1210) and human (MOLT-4) leukemia cell GAR formyltransferases (IC50 > 1 .times. 10-5M). II (R = Me) is 200 times weaker than I (R = H) against L. casei GAR formyltransferase. However, III (R = Me) is more inhibitory (IC50 = 5.5 .times. 10-7M) than II (R = Me) or I (R = Me). None of the compds. inhibited L. casei aminoimidazolecarboxamide ribonucleotide formyltransferase, dihydrofolate reductase, or thymidylate synthase.

RX(1) OF 232

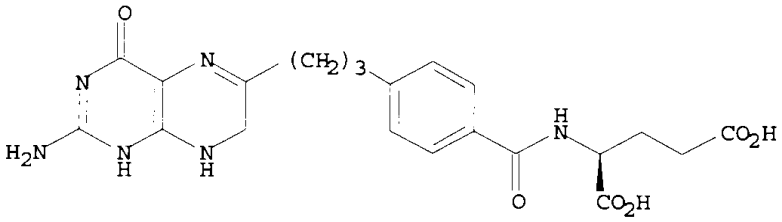


PtO2, H2, K3PO4



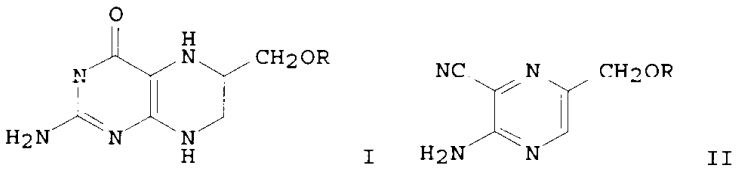
stereoisomers

RX(1) OF 232



REF: J. Med. Chem., 32(6), 1277-83; 1989

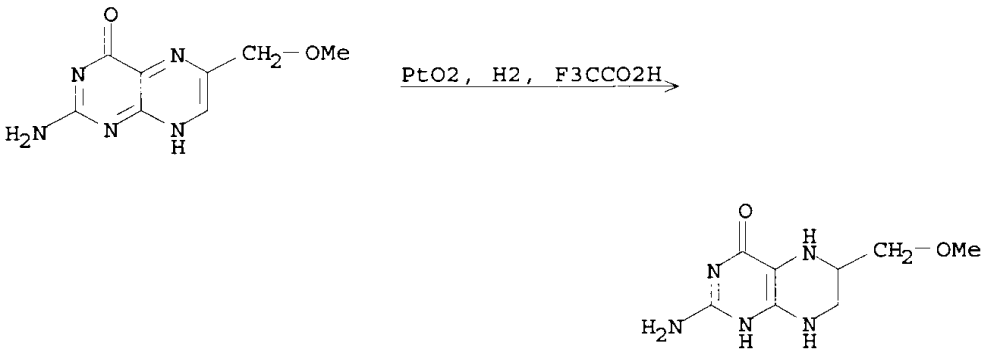
L13 ANSWER 6 OF 8 CASREACT COPYRIGHT 2002 ACS
ACCESSION NUMBER: 106:18225 CASREACT
TITLE: Synthetic analogs of tetrahydrobiopterin with cofactor activity for aromatic amino acid hydroxylases
AUTHOR(S): Bigham, E. C.; Smith, G. K.; Reinhard, J. F., Jr.; Mallory, W. R.; Nichol, C. A.; Morrison, R. W., Jr.
CORPORATE SOURCE: Wellcome Res. Lab., Burroughs Wellcome Co., Research Triangle Park, NC, 27709, USA
SOURCE: J. Med. Chem. (1987), 30(1), 40-5
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I II

AB Tetrahydrobiopterin analogs I (R = Me, Et, Pr, CHMe2Bu, CH2CHMe2,, CMe3, pentyl, octyl, CH2CH2OMe) were prepd. by the method of E.C. Taylor et al (1973) by cyclization of ortho amino nitriles II with guanidine, hydrolysis and catalytic hydrogenation trifluoroacetic acid I (R = Et) is an excellent cofactor for phenylalanine, tyrosine, and tryptophan hydroxylases, does not destabilize the binding of substrate, and is recycled by dihydropteridine reductase. I are being evaluated as cofactor replacements in biopterin-deficiency diseases.

RX(39) OF 153



REF: J. Med. Chem., 30(1), 40-5; 1987

L13 ANSWER 7 OF 8 CASREACT COPYRIGHT 2002 ACS

ACCESSION NUMBER: 103:104435 CASREACT

TITLE: Tautomeric nature of quinonoid 6,7-dimethyl-7,8-dihydro-6H-pterin in aqueous solution: a nitrogen-15 NMR study

AUTHOR(S): Benkovic, Stephen J.; Sammons, Douglas; Armarego, Wilfred L. F.; Waring, Paul; Inners, Ruth

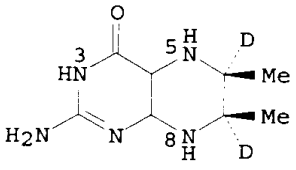
CORPORATE SOURCE: Dep. Chem., Pennsylvania State Univ., University Park, PA, 16802, USA

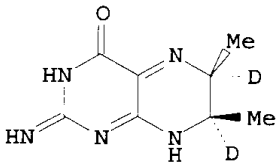
SOURCE: J. Am. Chem. Soc. (1985), 107(12), 3706-12
CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

GI


I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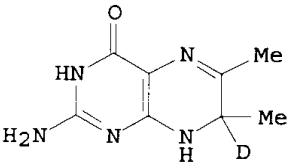
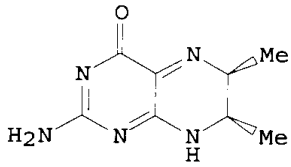
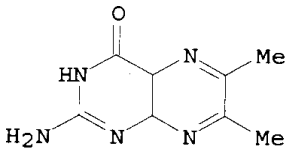
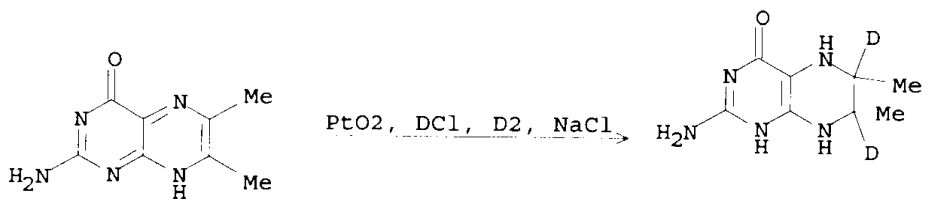

III


IV


V

AB The 15N chem. shifts of N(1), N(3), N(5), and the NH2 in the parent 6,7-dideuterio-5,8-dihydro-6,7-dimethylpterin (I), in I.cntdot.H+, the unstable 2-electron oxidn. product quinoid 6,7-dideuterio-6,7-dimethylpterin (II), II.cntdot.H+, the nonquinoid tautomers of II 7-deuterio-8-hydro-6,7-dimethylpterin (III) and IV, and fully oxidized 6,7-dimethylpterin (V) were assigned from the 15N labeled compds. The change in 15N resonances obsd. on oxidn. of the parent compd. that the endocyclic quinoid compd. IV is the predominant tautomer of 6,7-dihydro-6,7-dimethylpterin in H2O at pH .apprx.7. The correct representation of the quinoid species of 7,8-dihydro-6H-pterins, which are not further substituted in the pyrimidine ring, is that in which the NH2 group occurs at C(2) with a C(2)-N(3) double bond.

RX(7) OF 22

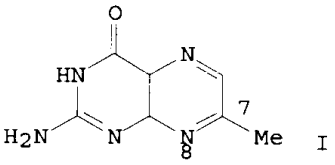


3 HCl

REF: J. Am. Chem. Soc., 107(12), 3706-12; 1985

L13 ANSWER 8 OF 8 CASREACT COPYRIGHT 2002 ACS
ACCESSION NUMBER: 93:45834 CASREACT
TITLE: Pterin chemistry. Part 73. Catalytic reduction pathway of 7-methylpterin
AUTHOR(S): Ganguly, Abhoy N.; Sengupta, Pradip K.; Bieri, Jost

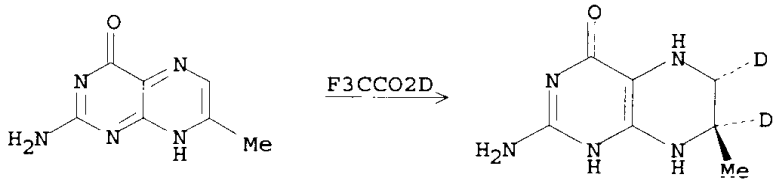
H.; Viscontini, Max
CORPORATE SOURCE: Org.-Chem. Inst., Univ. Zurich-Irchel, Zurich, CH-8057, Switz.
SOURCE: Helv. Chim. Acta (1980), 63(2), 395-401
CODEN: HCACAV; ISSN: 0018-019X
DOCUMENT TYPE: Journal
LANGUAGE: German
GI



I

AB Catalytic hydrogenation of 7-methylpterin (I) in neutral soln. occurs at the 7,8-double bond (thermodn.-controlled reaction) and then at the 5,6-double bond. In CF3CO2H, the 5,6-double bond is reduced first (kinetically-controlled reaction). The dihydro intermediate then undergoes a [1,2]-H-rearrangement leading to the formation of I 7,8-dihydro deriv. (II), which on further redn. gives the 5,6,7,8-tetrahydro deriv. Deuteration of II is stereoselective, giving a product with D at C(6) in the equatorial position.

RX(1) OF 4



REF: Helv. Chim. Acta, 63(2), 395-401; 1980